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In the Office Action mailed April 17, 2003, the Examiner rejected claims 1-17 and 19-28 under § 112, first paragraph.

Claims 1-3, 5-7, 9, 12-14, 16, 19-23 and 25 were rejected under § 102(e) or in the alternative under § 103(a) based upon U.S. Patent 5,980,396 to Moriyama et al.

Claims 1-3, 6-15, 17, 19-22, 26 and 28 were rejected under § 102(e) or in the alternative under § 103(a) based upon U.S. Patent 6,045,460 to Hayashi et al.

Claims 19-22, 26 and 28 were rejected under § 102(e) or in the alternative under § 103(a) based upon U.S. Patent 5,885,172 to Hebert et al.

Claims 19-25 were rejected under § 103(a) based upon the '396 patent to Moriyama, or the '460 patent to Hayashi or the '172 patent to Hebert in view of U.S. Patent 6,306,049 to Rajagopalan<sup>1</sup> or U.S. Patent 5,833,553 to Sullivan et al.

Claims 26-28 were rejected under § 103(a) based upon the '460 patent to Hayashi in view of U.S. Patent 6,083,119 to Sullivan et al.

Claims 1-15, 19-23, 25, 26 and 28 were rejected under § 102(e) or in the alternative under § 103(a) based upon U.S. Patent 5,779,562 to Melvin et al.

In view of the amendments and explanations presented herein, it is respectfully urged that all claims 1-14, 17, and 19-28 are in condition for allowance.<sup>2</sup>

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<sup>1</sup> Although the patent to Rajagopalan was referred to in the Office Action as "the '460 patent," it is believed that the Examiner was referring to U.S. Patent 6,306,049 to Rajagopalan.

<sup>2</sup> According to § 714.12 of the MPEP, amendments after final may be entered. "Any amendment that will place the application either in condition for allowance or in better form for appeal may be entered." It is believed that the amendments presented herein place the case in condition for allowance. The Examiner is also referred to § 714.13 where it is noted that "the refusal to enter the proposed amendment should not be arbitrary. The proposed amendment should be given sufficient consideration to determine whether the claims are in condition for allowance and/or whether the issues on appeal are simplified."

**A. Rejection of Claims 1-17 and 19-28 Under § 112, First Paragraph, Must Be Withdrawn**

In support of this ground of rejection, the Examiner contended:

Claims 1-17 and 19-28 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Requiring the core layer to be free of any density adjusting filler is not in the specification as filed. In fact, applicants own examples (Table 20) include ZnO in that layer. ZnO qualifies as a density adjusting filler according to applicant (Table 19; page 54, line 27).

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In accordance with the present invention, the core layer may be formed from a variety of materials, and may optionally include one or more density-adjusting agents. In some embodiments of the invention, the core layer does not include any density-adjusting fillers, and in other embodiments, the core layer contains such. Claims 1, 19, and 26 were previously amended to be directed toward embodiments in which the core layer does not contain any density-adjusting fillers. In view of the past practice by the Office in which negative claim limitations were discouraged, the language "said core layer free of any density adjusting filler material" was used.

It is repeatedly noted throughout the application that the core layer is "formed from a thermoset material, a thermoplastic material, or combinations thereof." See p. 8, lines 15-16. See also p. 47, lines 17-20. Several preferred golf ball embodiments in which the core layer is formed from a thermoset material are shown in Figs. 4 and 6. Fig. 5 illustrates an embodiment in which a core layer is formed from a thermoplastic material. These are examples of specific disclosures in which the core layer does not contain any density adjusting filler. On page 49, lines 3-13, it is noted that in an optional embodiment, the core layer could include density-adjusting filler agents. Examples of such agents are given on pages 55 to 57 of the application. The Examiner's reference to certain examples in the present application are illustrations of these optional embodiments of the present invention in which density-adjusting fillers are incorporated in the core layer.

Furthermore, claims 1 and 26 have been further amended to clarify that in another embodiment of the invention, the core layer is free or devoid of the powdered metal or metal alloy filler materials (see page 56) dispersed throughout the polymeric material of the center core component.

In view of the above information, it is respectfully submitted that upon closer review, the Examiner will agree that this ground of rejection should be withdrawn.

**B. Rejection of Claims 1-3, 5-7, 9, 12-14, 16, 19-23 and 25 Under § 102(e) or § 103(a) Based Upon the '396 Patent to Moriyama et al. Must Be Withdrawn**

For this rejection, the Examiner argued that:

Claims 1-3, 5-7, 9, 12-14, 16, 19-23 and 25 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over the Moriyama '396 Patent.

Moriyama exemplifies (Table 5 and 6) four layer golf ball having tungsten in the center core. The outer cover has a shore D of 71-72. The layer immediately inside the outer cover has a shore C of 54-57. These shore C values convert to a lower numerical value on the shore D scale (see applicant's own correlation col. 5, line 54 of US 6057403).

Although these examples have ionomer rather than urethane outer covers, Moriyama (col. 3, line 62) does teach the thermoplastic outer cover can be polyurethane.

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In response to Applicants' reasons why this ground of rejection fails, the Examiner contended:

Applicant argues Moriyama does not suggest polyurethane in the outer cover.

This is not convincing. Moriyama (col. 3, line 63) does suggest thermoplastics such as urethanes as an alternative to ionomers. Thermoplastics are the designation for Moriyama's cover (col. 2, line 44). The fact that ionomers might be the preferred outer cover does not defeat the rejection (MPEP 2123).

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It is well known in the art that polyurethane materials are relatively soft, and generally softer than many ionomeric materials typically used in golf ball covers. All claims at issue recite that the outer cover comprises a polyurethane

material. And, many of the claims at issue expressly recite that the outer cover is softer than the inner cover, e.g. claim 19.

The '396 patent to Moriyama et al. describes an entirely different, and opposite, arrangement of cover layers. Moriyama et al. disclose and teach that the outer cover layer is harder than the inner cover layer. See for example, the Abstract; col. 1, lines 55-57; col. 2, lines 18-20; and claim 1 of the '396 patent.

In order to remove any perceived discrepancy between the claims at issue and the '396 patent to Moriyama, independent claim 1 has been amended to expressly recite that the "inner cover layer is harder than said outer cover layer."<sup>3</sup>

Independent claim 1 as now amended, and independent claim 19, both specifically recite that the inner cover layer is harder than the outer cover layer. For this reason alone, these claims and all of their dependent claims at issue are allowable over the '396 patent. That patent entirely fails to disclose a golf ball in which the inner cover layer is harder than the outer cover layer. Clearly, there is no anticipation under § 102. As previously explained, the '396 patent teaches an entirely opposite arrangement of layers, "the hardness distribution of the portions [i.e. layers] is arranged to be soft-hard-soft-hard from the center to the cover." Abstract of the '396 patent. There is absolutely no teaching or suggestion of the subject matter of independent claims 1 and 19, by the '396 patent. Accordingly, all of the claims at issue are allowable over the '396 patent.

**C. Rejection of Claims 1-3, 6-15, 17, 19-22, 26 and 28 Under § 102(e) and 28 Under § 102(e) or § 103(a) Based Upon the '460 Patent to Hayashi et al. Must Be Withdrawn**

The Examiner rejected these claims as follows:

Claims 1-3, 6-15, 17, 19-22, 26 and 28 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hayashi '460 Patent.

Hayashi exemplifies (No. 3) four layer golf balls having barium sulfate in the center core and a urethane outer core. The outer cover is significantly softer than the inner cover.

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<sup>3</sup> This language was previously found in dependent claim 15. Accordingly, in view of the

In response to previous explanations concerning the irrelevance of the '460 patent to Hayashi, the Examiner argued:

Applicant argues Hayashi is directed towards placing the filler in the enclosure layer rather than the inner core.

This ignores example 3 of the reference. There is no filler in the enclosure layer. Barium sulfate and ZnO are present in the inner core. Both qualify as applicant's density adjusting filler (applicant's Table 19).

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Independent claims 1, 19, and 26 have each been amended to specifically recite that the core includes a metal filler material such as powdered metal or metal alloy fillers. This recitation is consistent with the corresponding dependent claims, and is well supported by the present application, e.g. p. 55, line 12 and p. 56, lines 6-24.

In contrast, the '460 patent discloses and teaches the use of "zinc oxide, barium sulfate, silica, calcium carbonate, and zinc carbonate" in the inner sphere 3 of Hayashi et al.'s golf balls. Example 3 of the '460 patent, upon which the Examiner relies, discloses zinc oxide and barium sulfate in the inner sphere.

The present application draws a distinction between metals and metal oxides. See p. 56 in this regard. Therefore, Hayashi et al.'s reference to zinc oxide in the inner core is not the same as Applicant's powdered metal or metal alloy fillers. There is no anticipation of any of the claims at issue since Hayashi et al. entirely fail to disclose the same type of filler agent in the inner core. Moreover, there is no teaching or suggestion by Hayashi et al. to employ Applicant's filler agents in an inner core.

For at least this reason, all of the claims at issue are allowable over the '460 patent to Hayashi et al.

**D. Rejection of Claims 19-22, 26 and 28 Under § 102(e) or § 103(a) Based Upon the '172 Patent to Hebert Must Be Withdrawn**

In the rejection of these claims, the Examiner argued:

Claims 19-22, 26 and 28 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over the Herbert '172 Patent.

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amendment to claim 1, claim 15 has been cancelled.

Herbert discloses a four-layer golf ball (fig. 1). The outer cover is a thermo-set polyurethane (col. 4, line 67). The outer cover is significantly softer than the inner cover (claims 3 and 5). The thicknesses of the inner and outer cover (claim 15) are within applicant's range. Density adjusting fillers can be present in the core (col. 7, line 19). The reference does not clearly suggest placing fillers in the mantle (i.e. outer core). It would have been obvious (if not considered anticipatory) have the fillers in the center core only.

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As to Applicants' previous explanation as to the patent to Hebert being inapplicable, the Examiner asserted:

Applicant argues Herbert does not have a softer outer cover and a hard inner cover.

This is not convincing. Claims 3 and 5 of the reference call for such hardness.

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Before turning to the specific deficiencies of the '172 patent to Hebert et al., it is important to recognize that this rejection (along with many of the other rejections) is based upon an improper standard. That is, in making the present rejection, the Examiner contends that "it would have been obvious to have the fillers in the center core only."

No! Such "obvious to try" conclusions have long been prohibited by the Federal Circuit. "[W]e have consistently held that 'obvious to try' is not to be equated with obviousness under 35 U.S.C. 103." *Gillette Co. v. S.C. Johnson & Son, Inc.*, 919 F.2d 720, 16 USPQ2d 1923 (Fed. Cir. 1990). "'[O]bvious to try' is not the standard." *Ecolchem, Inc. v. Southern California Edison Co.*, 227 F.3d 1361, 56 USPQ2d 1065 (Fed. Cir. 2000).

Notwithstanding this flaw associated with the present rejection, the '172 patent fails to anticipate or render obvious any of the claims at issue.

Independent claims 19 and 26 have been amended to now recite that the core include a metal filler material. The '172 patent to Hebert et al. entirely fails to disclose or teach this embodiment. Although the cores described by Hebert et al. may contain fillers, Applicant's powdered metal fillers are not included in the listing at col. 7, lines 17-22. Instead, metal fillers such as powdered metals or metal alloys are conspicuously absent from that listing.

Again, there is no anticipation under § 102 or obviousness under § 103. For at least this reason, the claims at issue are allowable over the '172 patent to Hebert et al.

Independent claims 19 and 26 additionally recite that the core layer disposed about the core, is "free of any density adjusting filler material." The '172 patent is entirely silent in this regard. For this reason alone, all claims at issue are allowable over the '172 patent.

#### **E. Rejection of Claims 19-25 Under § 103(a) Must Be Withdrawn**

The Examiner contended that:

Claims 19-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Moriyama '396 or Hayashi '460 or Herbert '172 in view of Rajagopalan '460 or Sullivan '553.

The three primary references suggest high-density fillers in their cores, but do not suggest all the species named by applicant.

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As to Applicants' previous explanations concerning this matter, the Examiner countered:

Applicant argues Rajagopalan '049 and Sullivan '553 do not exhibit the structure claimed.

These references are merely relied on to teach alternative species of golf ball filler. The primary references provide the ball's overall structure.

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For this ground of rejection, the Examiner relies upon the '396 patent to Moriyama et al., the '460 patent to Hayashi et al., and the '172 patent to Hebert et al. for "the ball's overall structure." The other two patents, i.e. the '049 patent to Rajagopalan and the '553 patent to Sullivan et al., were "relied on to teach alternative species of golf ball filler."

At first glance, this collection of five (5) patents may seem to collectively suggest the claimed golf balls, but the Examiner's conclusion of obviousness was not reached in a manner consistent with numerous pronouncements from the Court of Appeals for the Federal Circuit. Additionally, even if the various patents are selectively combined in the manner that the

Examiner attempts, the resulting combination still fails to render any of the claims at issue obvious. Furthermore, yet another reason exists as to why the alleged combination is improper – attempting to make such a combination ignores specific teachings in the cited patents that expressly prohibit such combination. That is, each of the cited patents specifically teaches away from the attempted combination and also from the subject matter of the claims at issue.

Before turning to each of these matters, it is instructive to review the current state of the law as pronounced by the Court of Appeals for the Federal Circuit. It is imperative that in order to properly support a rejection under § 103, the cited references must provide a teaching or suggestion to support the Examiner's assertion of obviousness. Although a prior art device 'may be capable of being modified to run the way [the patent applicant's] apparatus is claimed, there must be a suggestion' or motivation to do so." *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). "We do not 'pick and choose among the individual elements of assorted prior art references to recreate the claimed invention,' but rather we look for 'some teaching or suggestion in the references to support their use in the particular claimed combination.'" *Symbol Technologies, Inc. v. Opticon, Inc.*, 935 F.2d 1569, 19 USPQ2d 1241 (Fed. Cir. 1991). "There must be some reason, suggestion, or motivation found in the prior art...[to] make the combination. That knowledge cannot come from the applicant's invention itself." *In re Oetiker*, 977 F.2d 1443, 24 USPQ 1443 (Fed. Cir. 1992). In addition, see *Karsten Manufacturing Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 58 USPQ2d 1286 (Fed. Cir. 2001).

And, the Federal Circuit has indisputably held that a reference must be considered as a whole, and portions arguing against or teaching away from the claimed invention must be considered. See *Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc.*, 796 F.2d 443, 230 USPQ 416 (Fed. Cir. 1986). Furthermore, "if a first prior art reference [teaches away], then that finding alone can defeat [an] obviousness claim" based on a combination of the references." *Winner International Royalty Corp. v. Wang*, 202 F.3d 1340, 53 USPQ2d 1580 (Fed. Cir. 2000). "A prima facie case of obviousness can be rebutted if the applicant. . .can show "that the art in any material respect taught away" from the



claimed invention.’ *In re Geisler*, 116 F.3d 1465, 1469, 43 USPQ2d 1362, 1365 (Fed. Cir. 1997) (quoting *In re Malagari*, 499 F.2d 1297, 1303, 182 USPQ 549, 553 (CCPA 1974). ‘A reference may be said to teach away when a person of ordinary skill, upon reading the reference, . . . would be led in a direction divergent from the path that was taken by the applicant.’ *Tec Air, Inc. v. Denso Mfg. Mich. Inc.*, 192 F.2d 1353, 1360, 52 USPQ2d 1294, 1298 (Fed. cir. 1999). See *In re Haruna*, 249 F.3d 1327, 58 USQP2d 1517 (Fed. Cir. 2001). “We have noted. . . , as a ‘useful general rule,’ that references that teach away cannot serve to create a prima facie case of obviousness. *In re Gurley*, 27 F.3d 551, 553, 31 USPQ2d 1130 (Fed. Cir. 1994).

Furthermore, it may in many instances, be improper to combine references if they teach away from each other or contain contradictory or inconsistent teachings. If references taken in combination would produce a ‘seemingly inoperative device,’ we have held that such references teach away from the combination and thus cannot serve as predicates for a prima facie case of obviousness. *In re Spinnoble*, 405 F.2d 578, 587, 160 USPQ 237, 244, 56 C.C.P.A. 823 (1969) (references teach away from combination if combination produces seemingly inoperative device); see also *In re Gordon*, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. cir. 1984) (inoperable modification teaches away).” See *McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 60 USPQ 2d 1001 (Fed. Cir. 2001).

Turning attention to the specific patents relied upon for the present rejection, it is submitted that upon closer review of this art, and keeping in mind the standards for evaluating obviousness pronounced by the Federal Circuit, it will be appreciated that the rejection must as a matter of law be withdrawn.

The ‘396 patent to Moriyama et al., the ‘460 patent to Hayashi et al., and the ‘172 patent to Hebert et al. cannot be combined with each other. Each of these patents contain express teachings that conflict with each other. The ‘396 patent to Moriyama et al. teaches a hard outer cover layer disposed on a soft inner cover layer. In sharp contrast, the ‘460 patent to Hayashi et al. and the ‘172 patent to Hebert et al. teach the complete opposite – a soft outer cover layer

disposed on a hard inner cover layer. How can a rejection be based upon these three patents when the express teachings of the patents contradict each other?

But that is not the end of the conflicting teachings. The '396 patent to Moriyama et al. and the '460 patent to Hayashi et al. teach that if a polyurethane is used for the outer cover, it shall be a thermoplastic polyurethane. In sharp contrast, the '172 patent to Hebert expressly teaches that if a polyurethane is used in the outer cover, it shall be a thermoset. This is indisputable.

There is absolutely no teaching or suggestion in any of the cited patents why certain passages should be ignored and other passages followed. This clearly indicates that the present ground of rejection is based upon impermissible hindsight reconstruction, using the pending claims as a blueprint to re-create the claimed subject matter. This is not the proper analysis under § 103.

Neither of the '049 patent to Rajagopalan nor the '553 patent to Sullivan et al. remedy any of the deficiencies of the previously noted patents to Moriyama et al., Hayashi et al., and Hebert et al.

Neither the '049 patent nor the '553 patent discloses a core layer. And so, neither patent discloses a core layer that is free of a density adjusting filler material.

Moreover, neither the '049 patent nor the '553 patent disclose an inner cover that is harder than the outer cover. Independent claim 19 and its dependent claims recite this feature. As previously explained, if one followed the teachings of the '396 patent to Moriyama et al., as the Examiner does in making the rejection, one would be instructed to provide an inner cover that was softer than the outer cover. That configuration is opposite the configuration of layers recited in the claims at issue.

It is respectfully urged that upon closer review of this matter, the Examiner will appreciate that all claims 19-25 are allowable over the cited patents.

#### **F. Rejection of Claims 26-28 Under § 103(a) Must B Withdrawn**

The Examiner argued:

Claims 26-28 are rejected under 35 U.S.C. 103(a) as

being unpatentable over the Hayashi '460 Patent in view of Sullivan '119.

Hayashi does not explain what molding technique was used to place the urethane cover in the ball. Compression molding, reaction injection molding etc.. (col. 23, line 12 of Sullivan) are all well-known molding techniques for forming golf ball covers. Reaction injection molding is particularly useful for urethanes (claim 14 of Sullivan).

It would have been obvious to use any common molding technique to place the urethane cover on Hayashi's ball.

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In response to Applicants' previous explanation on this matter, the Examiner asserted:

Applicant argues that Hayashi/Sullivan combination does not suggest that the outer core is free of filler.

As explained above, Hayashi's example 3 shows such a structure.

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As previously noted, independent claim 26 has been amended to specifically recite that the core includes a metal filler material such as a powdered metal or metal alloy filler. Hayashi et al. completely fails to teach this aspect. Instead, Hayashi et al. discloses various inorganic fillers for the core. See col. 4, lines 46-48 of the '460 patent. There is no teaching or suggestion by Hayashi et al. to use a metal filler material in their cores. For at least this reason, claims 26-28 are allowable over the '460 patent. Additionally, it is also noted that this ground of rejection uses the improper "it would have been obvious" conclusion. That is not the proper standard under § 103.

**G. Rejection of Claims 1-15, 19-23, 25, 26 and 28 Under § 102(e) or § 103(a) Must Be Withdrawn**

The Examiner rejected these claims alleging that:

Claims 1-15, 19-23, 25, 26 and 28 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over the Melvin '562 Patent.

Melvin discloses four layer golf balls. The cover can be polyurethane (col. 18 lines 37-53). The inner core is thermoplastic (col. 5, line 32) and contains tungsten filler (col. 7, line 55).

The inner core is required to have a higher specific gravity than the outer core (col. 7, lines 58-62). This suggests placing the filler in the inner core only.

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Concerning Applicants' previous explanation on this matter, the Examiner argued:

Applicant argues Melvin does not suggest keeping the outer core free of density adjusting filler.

Melvin does suggest low moment of inertia balls have an inner core with its density adjusted upward compared to the outer core (col. 7, lines 58-62). One of ordinary skill would recognize this as a suggestion of adding high-density filler to the inner core and adding no filler to the outer core.

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Each of the independent claims 1, 19, and 26 specifically recites that the core layer is "free of any density adjusting filler material." The '562 patent to Melvin et al. entirely fails to disclose or teach this feature. In contrast, Melvin et al. repeatedly describe incorporating density adjusting filler materials in their golf balls, see col. 7, lines 38-41, and 62-66; col. 8, lines 7-9; and col. 9, lines 1-4. It is not understood how "one of ordinary skill would recognize" the incorporation of density adjusting filler materials as a "suggestion of...adding no filler to the outer core" as the Examiner argues. Melvin et al. simply does not suggest providing a core layer that is free of any density adjusting filler material. There is no anticipation under § 102 nor teaching under § 103.

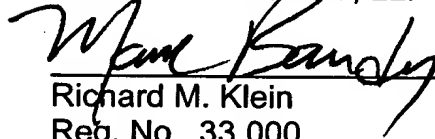
In view of these distinguishing differences, all of claims 1-15, 18-23, 25, 26, and 28 are patentable over the '562 patent to Melvin et al.

#### **H. Conclusion**

In view of the foregoing, it is respectfully requested that all claims 1-14, 17, and 19-28 are in condition for allowance.

Respectfully submitted,

FAY, SHARPE, FAGAN,  
MINNICH & MCKEE, LLP

A handwritten signature in black ink, appearing to read "Mark E. Bandy", is written over a horizontal line.

Richard M. Klein  
Reg. No. 33,000

Mark E. Bandy

Reg. No. 35,788

1100 Superior Avenue

Suite 700

Cleveland, Ohio 44114-2579

(216) 861-5582

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